

U.S.S.N. 10/022,881

9

99-377/009774 (BOE 0274 PA)

**REMARKS****Introductory comments:**

Claims 1-5, 9-13 and 17-22 are pending in the application. The Applicant respectfully requests reconsideration of claims 1-5, 9-13 and 17-22. Claims 1-5, 9-13 and 17-22 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Claims 1-5, 9-13, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by *Devenyi* (US Patent 5,955,806). Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Devenyi* (US Patent 5,955,806) in view of *Hoesterey* (U.S. Patent No. 4,034,949) or *Prince* (U.S. Patent No. 4,050,085). Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Devenyi* (US Patent 5,955,806) in view of *Suzuki* (U.S. Patent No. 4,378,146).

**In response to the drawing objections:**

In the Office Action dated April 13, 2004, the Applicant was respectfully requested to add drawings illustrating the pin positions and the leaf positions in 2-3 different states of opening. According to the Office Action, it was unclear from the description and the drawings how the leaves of the diaphragm will rotate if the leaf is connected to both the rotor and the stator without a slot for sliding one of the pins.

In response to the drawing objection, one sheet of substitute drawings has been submitted herewith containing Figs. 2a and 2b. In the additional drawings, Figure 2a is added to illustrate the iris in a first state of opening, and Figure 2b is added to illustrate the iris in a second state of opening. These figures are added to clarify the description set forth in paragraphs [0026] and [0030] of the specification.

U.S.S.N. 10/022,881

10

99-377/009774 (BOE 0274 PA)

Reference to these drawings has been added to the Detailed Description paragraphs [0018] and [0026]. No new matter has been added.

Applicant will formalize these changes upon the Examiner's approval.

**In response to the § 112 claim rejections:**

Claims 1-5, 9-13 and 17-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contain subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In response to the rejection, Applicant has amended page 10, paragraph [0030] in accordance with claim 1 to state that, "The pivot pins 38 are ideally placed such that a first pin 39 on at least a portion of the leaves attaches to the rotor 32 and a second pin 41 on the alternate side of at least one of the leaves (this leaf is different than the leaf including the first pin) attaches to the stator assembly frame 34." Claim 1 includes the limitation in lines 11-15, "a first portion of at least one of said plurality of diaphragm leaves coupled to said stator, a second portion of *another* of said plurality of diaphragm leaves coupled to said rotor." (emphasis added.) Applicant therefore amends the Detailed Description to correspond with Claim 1 and therefore clarifies how the blades are coupled to the stator and rotor. Claim 1 includes embodiments where only one pin from one of the leaves or one first portion of the leaves is coupled to the stator, whereas a second portion or pin from another leaf is coupled to the rotor. Therefore, Claim 1 includes embodiments where one or more pins are coupled to the rotor and one or more pins are coupled to the stator.

U.S.S.N. 10/022,881

11

99-377/009774 (BOE 0274 PA)

Further in response to the specification rejections, the Applicant has added "Important to note is that while the rotor moves, the second pin 41 remains stationary relative to the stator" to paragraph [0030]. This amendment clarifies the Applicant's original intent that the rotor and pins coupled to the rotor move relative to the stator, but the stator and pins coupled to the stator remain stationary relative to the stator. No new matter has been added.

**In response to the § 102(b) claim rejections:**

Claims 1-5, 9-13 and 17-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Devenyi et al.* (US Patent 5,955,806). According to the Office Action, *Devenyi* discloses a torque motor having an annular cylindrically symmetric stator and rotor. The stator includes a frame and multiple magnets mounted thereon. The rotor is rotatably coupled to the annular magnet member and defines a channel. Also according to the Office Action, a diaphragm is coupled to the stator via a pin and to the rotor via a pin. The diaphragm includes leaves pivotally arranged to form an adjustable aperture.

According to the Office Action, *Devenyi* discloses a torque motor having an annular cylindrically symmetric stator and rotor. The stator includes a frame and multiple magnets mounted thereon. The rotor is rotatably coupled to the annular magnet member and defines a channel. Also according to the Office Action, a diaphragm is coupled to the stator via a pin and to the rotor via a pin. The diaphragm includes leaves pivotally arranged to form an adjustable aperture.

Although the Applicant believes the originally filed claims are allowable, Applicant nevertheless amends independent claims 1, 9, and 19 to clarify that the

U.S.S.N. 10/022,881

12

99-377/009774 (BOE 0274 PA)

pins extend from the diaphragm. This arrangement is illustrated in Figure 4, which shows the pins extending from the diaphragm in accordance with Applicant's original intent regarding the present invention. The Applicant respectfully submits that claims 1 - 5, 9 13, and 17 - 22 are novel and non-obvious because the amended claims and the prior art differ. The system in *Devenyi* is conventional in that the "driver pins 65 extend axially from the support base 30 and pass through slots 66 in the end of the rotor ring." (column 3, lines 52-59). *Devenyi* does not disclose that the pins originate from a portion of the diaphragm as is claimed in claims 1, 9, and 19. Appellant claims a first portion of at least one of said plurality of diaphragm leaves coupled to said stator, and a second portion of another of said plurality of diaphragm leaves coupled to said rotor. The first portion and second portion are, however, coupled to the rotor and stator coupled through pivot pins on the diaphragm. (see paragraph 0030 and Figure 4.) *Devenyi* does not disclose or suggest an embodiment including a portion of one diaphragm leaf coupled to the rotor and a portion of another diaphragm leaf coupled to the stator.

The structure of the diaphragm including the portions having pins described by the Applicant is advantageous in that it facilitates assembly, and reduces costs because the task of aligning the diaphragm portions with the rotor and stator is simplified.

U.S.S.N. 10/022,881

13

99-377/009774 (BOE 0274 PA)

Additionally, the claimed configuration has improved range of motion over the prior art due to the diaphragm portion arrangement. In other words, the motor as disclosed in *Devenyi* having the pin arrangement illustrated in Figure 6, does not have an improved range of motion resulting from the claimed structure. (see Summary of the Invention.)

The amended claims 1, 9 and 19 are therefore novel and non-obvious in view of the cited prior art. For at least the same reasons, dependent claims 4, 5, 10-13, 17 - 18, and 20 - 22 are also novel and non-obvious.

**In response to the § 103(a) claim rejections:**

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Devenyi* (US Patent 5,955,806) in view of *Hoesterey* (U.S. Patent No. 4,034,949) or *Prince* (U.S. Patent No. 4,050,085). Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Devenyi* (US Patent 5,955,806) in view of *Suzuki* (U.S. Patent No. 4,378,146). Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Devenyi* in view of *Scruggs* or in view of *Bellows*.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Devenyi* in view of *Hoesterey* or *Prince*. The Office Action alleges that *Devenyi* teaches the salient features of the claimed invention except for the fact that the iris is used in a telescope. The Office Action further alleges that both *Hoesterey* and *Prince* teach that it was known to use an iris in a telescope. The Office Action concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by *Scruggs* or *Bellows* for the purpose of controlling the amount of light per unit of time.

U.S.S.N. 10/022,881

14

99-377/009774 (BOE 0274 PA)

As mentioned above, claim 20 depends from the amended claim 19 and is believed to be allowable for at least this reason. In other words, because the references either alone or in combination do not disclose or suggest pins extending from the diaphragm and coupling to both the rotor and stator, the combination in claim 20 is believed to be novel and non-obvious. As discussed regarding the claim 1, 9, and 19 rejections, the claimed configuration is an improvement over the prior art, in that, among other things, it has improved range of motion due to the diaphragm pin arrangement.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Devenyi* in view of *Suzuki*. According to the Office Action, *Devenyi* teaches the salient features of the claimed invention except for the fact that the iris is used in a camera. The Office Action alleges that *Suzuki* teaches that it was known to use an iris (col. 2, line 68) in a camera (col. 3, line 4). The Office Action further alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by *Suzuki* for the purpose of controlling the amount of light per unit of time.

As mentioned above, claim 21 depends from the amended claim 19 and is believed to be allowable for at least this reason. In other words, because the references either alone or in combination do not disclose or suggest pins extending from the diaphragm and coupling to both the rotor and stator, the combination in claim 21 is believed to be novel and non-obvious.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Devenyi* in view of *Scruggs* or in view of *Bellows*. The Office Action alleges that *Devenyi*

U.S.S.N. 10/022,881

15

99-377/009774 (BOE 0274 PA)

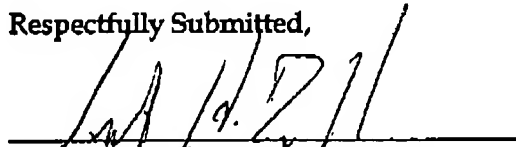
teaches the salient features of the claimed invention except for the fact that the iris is used in a pipe. Both *Scruggs* and *Bellows*, according to the Office Action, teach that it was known to use an iris in a pipe. The Office Action concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by *Scruggs* or *Bellows* for the purpose of controlling the amount of water flow.

As mentioned above, claim 22 depends from the amended claim 19 and is believed to be allowable for at least this reason. In other words, because the references either alone or in combination do not disclose or suggest pins extending from the diaphragm and coupling to both the rotor and stator, the combination in claim 22 is believed to be novel and non-obvious.

In view of the aforementioned remarks, it is respectfully submitted that all pending claims are in a condition for allowance. A notice of allowability is therefore respectfully solicited. Please charge any fees required in the filing of this amendment to Deposit Account 50-0476.

The Examiner is invited to contact the undersigned at (248) 223-9500 if any unresolved matters remain.

Respectfully Submitted,



Justin H. Purcell, Reg. No. 53,493  
ARTZ & ARTZ, PC  
28333 Telegraph Road, Suite 250  
Southfield, MI 48034  
(248) 223-9500

Dated: July 13, 2004